How to Organize Your Teaching

Teaching Strategies

Professional Development Module

Montana Office of Public Instruction

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Group Norms

Listening: SLANT

Cell phone reminder

Conversations

Breaks

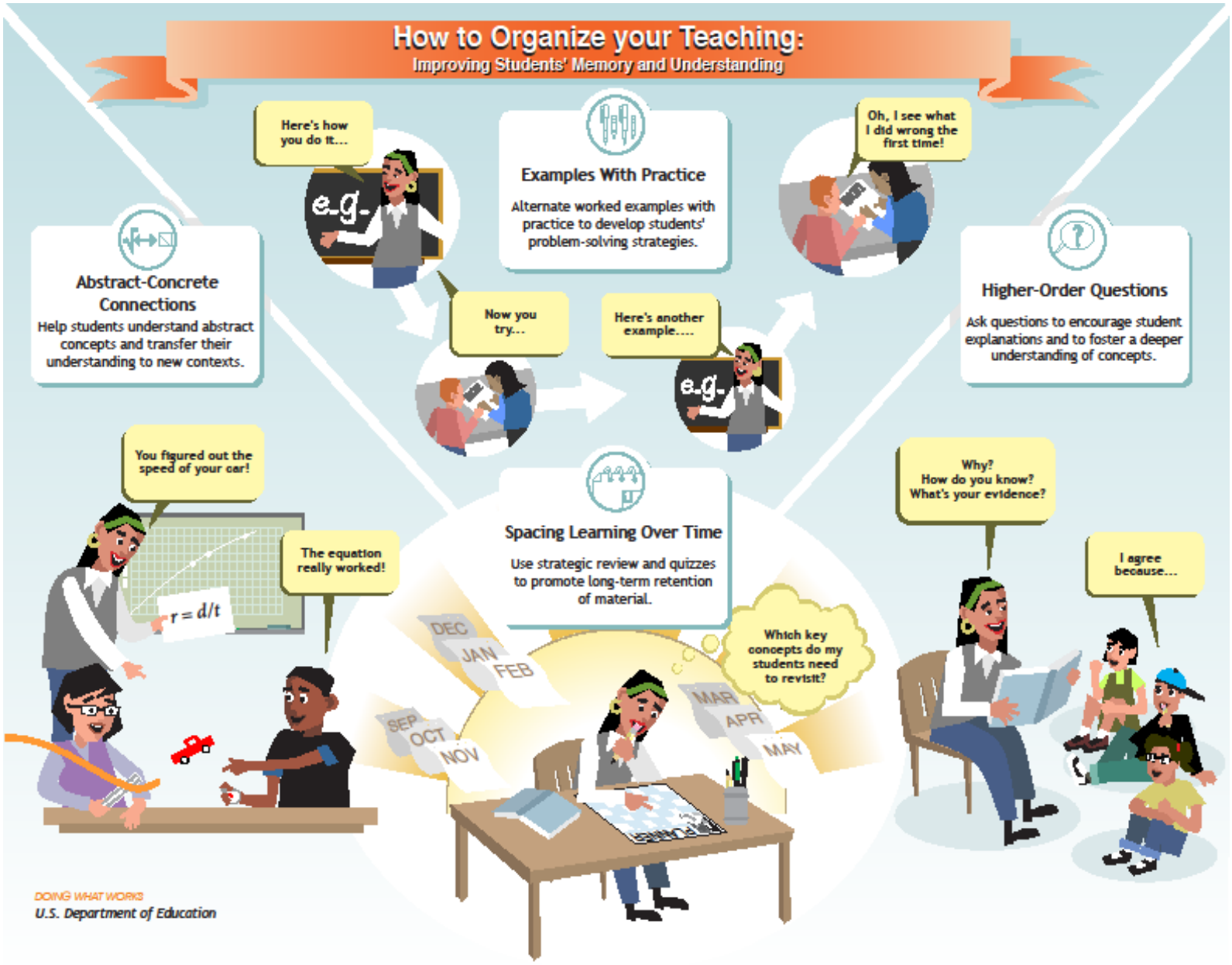
Bathroom location

Doing What Works Website

Practice
Learn
See
Do

Introduction Activity

- Think about an adjective that describes you that begins with the same letter your first name begins with and an animal with the same letter as well.
- Share with the group one at a time around the room.
- "Groovy Gloria Groundhog"



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TOPIC SUMMARY

Multimedia Overview: How to Organize Your Teaching

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Key Concepts in Organizing Instruction and Study

1. Spacing learning over time with review and quizzing
2. Alternate worked examples with problem-solving practices
3. Connect abstract and concrete representations of concepts
4. Use higher-order questions to help students build explanations

•Expert Interview
"Key Concepts in Organizing Instruction and Study"

Hal Pashler, Ph.D.

University of California, San Diego

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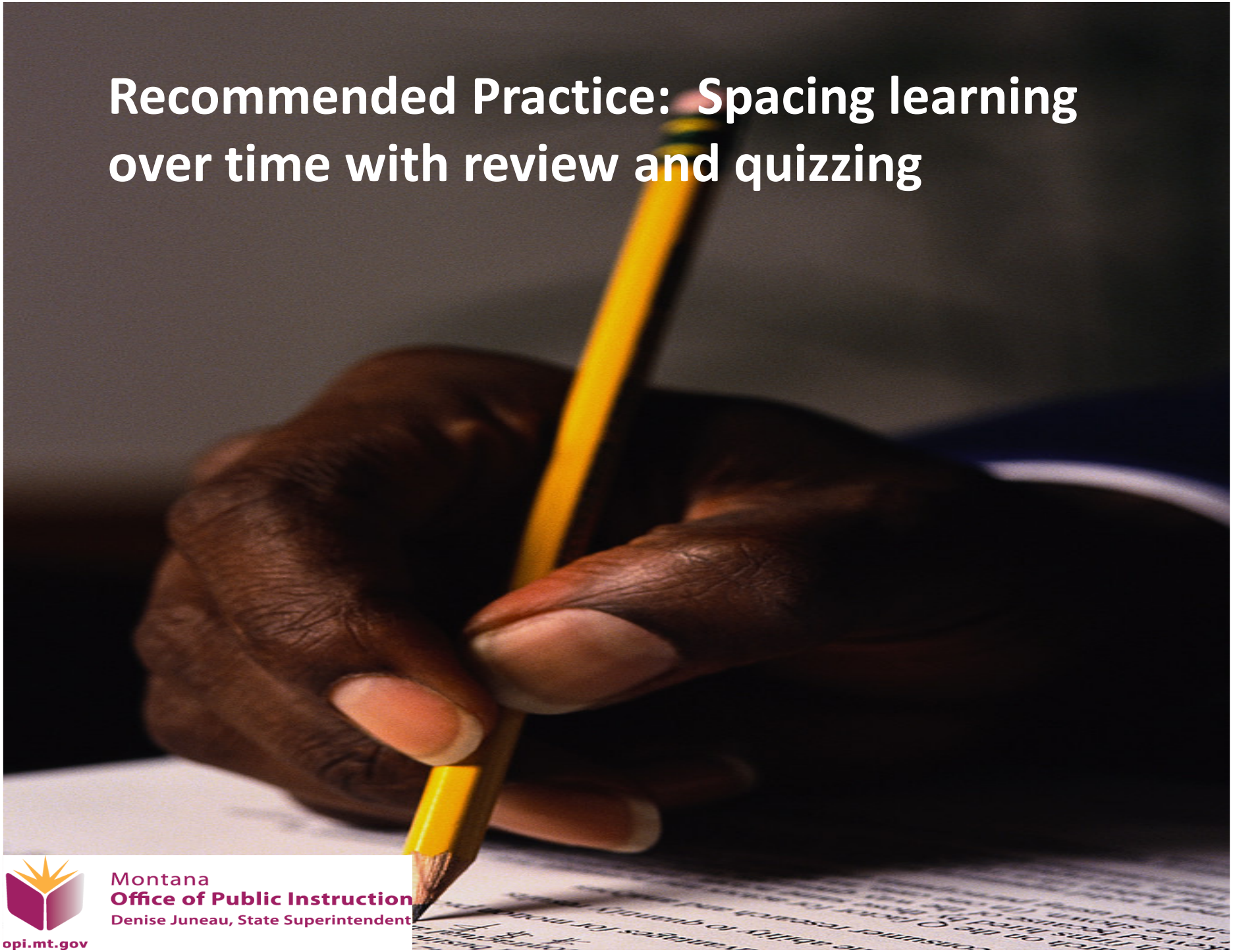
Recommended Practice: Spacing learning over time with review and quizzing



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Spacing Learning Over Time Practice Summary

- Introducing the key subject content
- Revisiting that content with short quizzes or targeted homework assignments
- Quizzes or review activities asking students to recall key facts several weeks or months after the original lesson.

Spacing Learning Over Time Practice Summary

- Multimedia Overview

  Spacing Learning Over Time with Review and Quizzing

Spacing Learning Over Time
Learn What Works

LEARN:

- Expert Interview “Key Concepts in Spacing Learning Over Time”
- Mark McDaniel, Ph.D.

  Washington Univ., St. Louis

Spacing Learning Over Time
Learn What Works-
Key Concept

1. Use quizzes and fun games for retrieval practice to reduce forgetting.

Spacing Learning Over Time
Learn What Works-
Key Concept

2. Teach students how to test and assess their own knowledge and focus their study strategies accordingly.

Spacing Learning Over Time
Learn What Works-
Key Concept

3. Use technology to provide quick-response quizzes.

Spacing Learning Over Time
Learn What Works-
Key Concept

4. Plan for important content to be revisited and reviewed over time.

Spacing Learning Over Time
Learn What Works-
Key Concept

5. Provide common planning time for teachers to revise grading systems that capture review and students' mastery of skills over time rather than a student's performance on a single assessment.

Spacing Learning Over Time
Learn What Works

LEARN:

- Expert Interview “Using Quizzes to Boost Achievement”
- Mark McDaniel, Ph.D.

  Washington Univ., St. Louis

Spacing Learning Over Time
See How It Works

- Quick Quizzes as Learning Tools
- Charles Willems, Mike Comiskey, Matt Forbes
- Kettle Moraine High School, Wales(WI)

Spacing Learning Over Time
See How It Works

- Quizzing With Clickers
- Columbia Middle School (IL)
- Patrice Bain – Middle School Social Studies

Spacing Learning Over Time
See How It Works

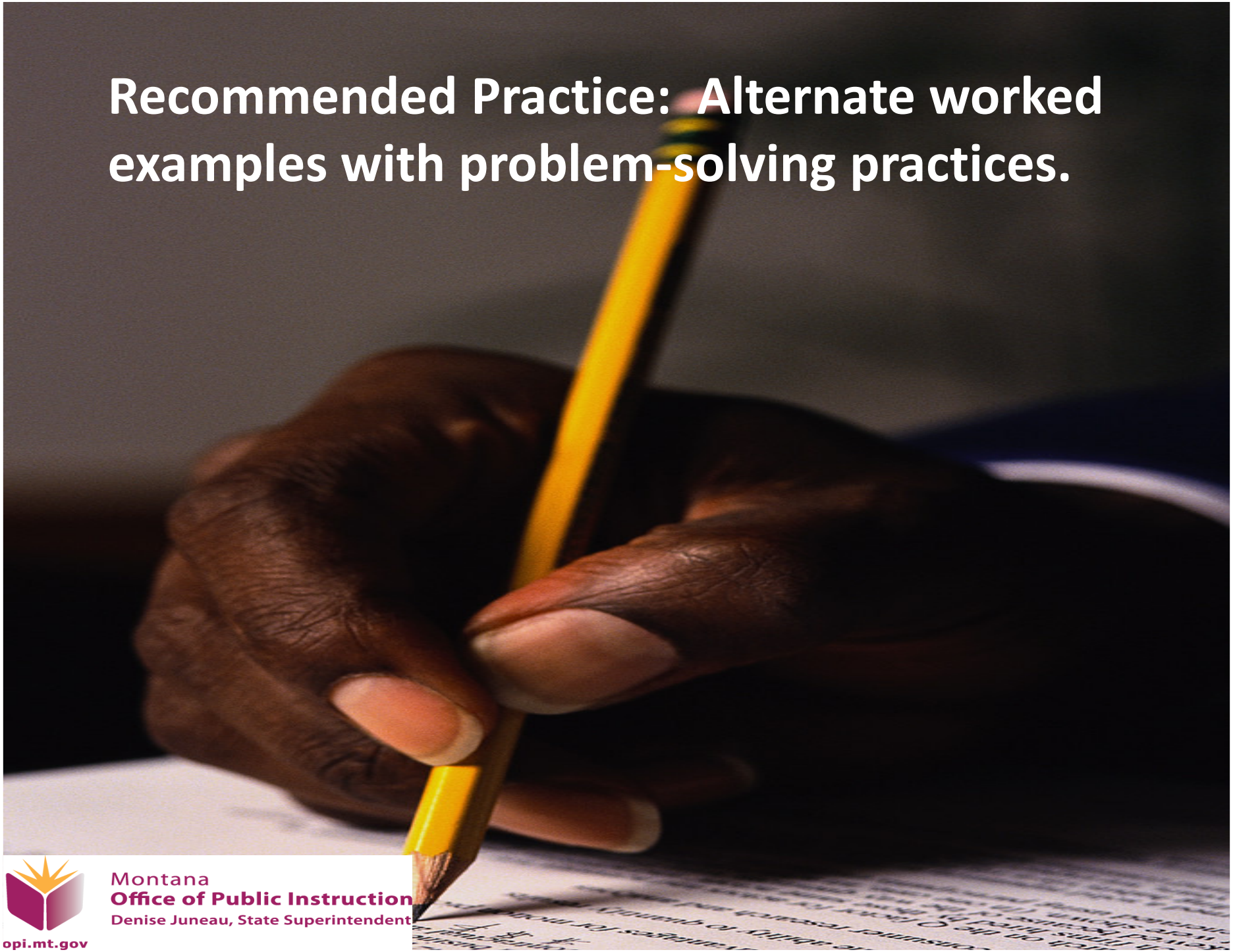
- Bell Ringers, Pyramids, and Big Ideas
- Plainwell Middle School (MI)
- Bonny Bowen – social studies teacher

Spacing Learning Over Time
Do What Works

- Learning Together About Spacing Learning Over Time

- Description- A Tool that can be used to convene a school in-service session for teachers to learn why and how to space learning over time.

Recommended Practice: Alternate worked examples with problem-solving practices.



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Alternate Worked Examples with problem-solving practice Practice Summary

- By providing a worked example before each new problem to solve, students are given access to better problem-solving strategies and can develop their own strategies more effectively.

Alternate Worked Examples with problem-solving practice Practice Summary

- Multimedia Overview: Alternating Worked Examples With Practice

Alternate Worked Examples with Problem-Solving Practice Learn What Works

LEARN:

- Expert Interview “Key Concepts in Alternating Worked Examples With Practice”
- Ken Koedinger, Ph.D.

  Carnegie Mellon University

Alternate Worked Examples with problem-solving practice Learn What Works- Key Concept

1. Develop homework sets that ask students to alternate between reading already worked solutions and solving problems on their own.

Alternate Worked Examples with problem-solving practice Learn What Works- Key Concept

2. Have teachers conduct "thinkalouds" in which they explain their thinking process as they complete problems.

Alternate Worked Examples with problem-solving practice Learn What Works- Key Concept

3. Plan for professional development to identify the characteristics of a good example.

Alternate Worked Examples with problem-solving practice Learn What Works- Key Concept

4. Consider incorporating online tutorials that assist students.

Alternate Worked Examples with problem-solving practice See How It Works

- Slideshow: The Power of Worked Examples
- Kettle Moraine High School (WI)
- Mike Comiskey – Geometry Teacher

Alternate Worked Examples with problem-solving practice See/Do How It Works

- Student Handout: Order of Operations Homework with Worked Examples
- Carnegie Mellon University
- Julie Booth and Ken Koedinger

Recommended Practice: Connect abstract and concrete representations of concepts.

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Connect Abstract & Concrete Representations of Concepts Practice Summary

- Students need to make connections between abstract and concrete

Connect Abstract & Concrete Representations of Concepts Practice Summary

- Multimedia Overview: Connecting Abstract and Concrete Representations of Concepts

Connect Abstract & Concrete Representations of Concepts Learn What Works

LEARN:

- Expert Interview “Using Concrete Situations to Introduce Content”
- Brian A. Bottge, Ed.D.
- University of Kentucky

Connect Abstract & Concrete Representations of Concepts Learn What Works- Key Concept

1. Identify the challenging concepts in your discipline and how you might demonstrate these concepts in concrete contexts

Connect Abstract & Concrete Representations of Concepts Learn What Works- Key Concept

2. Use graphic representations with verbal descriptions that illustrate key processes and procedures.

Connect Abstract & Concrete Representations of Concepts Learn What Works- Key Concept

3. Help students understand the benefits and limitations of concrete representations.

Connect Abstract & Concrete Representations of Concepts Learn What Works- Key Concept

4. Provide teachers with professional development in creating lessons that situate challenging course material in real-world problem scenarios.

Connect Abstract & Concrete Representations of Concepts See How It Works

- Presentation: Cupcake Geology: Using Models to Explain Abstract Concepts
- Chamberlin Hill Intermediate School (OH)

Connect Abstract & Concrete Representations of Concepts See How It Works

- Slideshow: Designing Hovercrafts Anchoring Instruction in Real-Life Problems
- Lodi Middle School (WI)
- Lyle Hendrickson – Math teacher

Connect Abstract & Concrete Representations of Concepts See How It Works

- Interview and Classroom Video: Demonstrating Thermal Layering
- Starr Elementary School, Plainwell (MI)
- Tasia Stamos, Fifth Grade Teacher

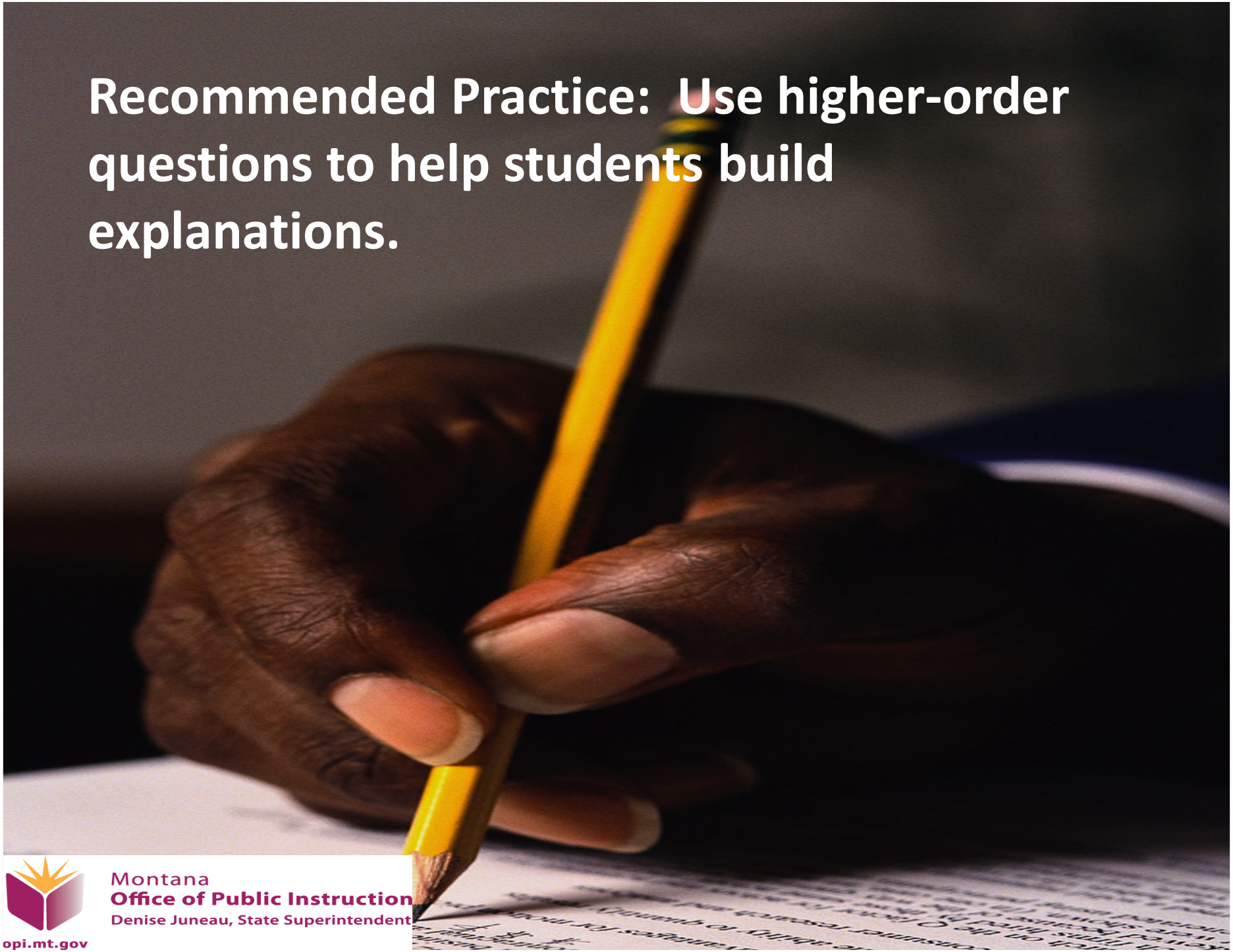
Connect Abstract & Concrete Representations of Concepts See How It Works

- Video Interview: Making History Come Alive
- Plainwell Middle School
- Matt Moorman

Connect Abstract & Concrete Representations of Concepts Do What Works

- Learning Together About Connecting Abstract and Concrete Representations of Concepts

Recommended Practice: Use higher-order questions to help students build explanations.



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Use Higher-order Questions to Help Students Build Explanations Practice Summary

- Who?
- What?
- Where?
- When?
- Why?

Use Higher-order Questions to Help Students Build Explanations Practice Summary

- Multimedia Overview: Using Higher-Order Questions to Help Students Build Explanations

Use Higher-order Questions to Help Students Build Explanations Learn What Works

LEARN:

- Expert Interview “Key Concepts In Using Higher-Order Questions”
- Annemarie Palincsar, Ph.D.
- University of Michigan

Use Higher-order Questions to Help Students Build Explanations Learn What Works- Key Concept

1. Study your discipline to better understand how scientists, historians, mathematicians, and those who study literature ask questions and provide explanations.

Use Higher-order Questions to Help Students Build Explanations Learn What Works- Key Concept

2. Encourage students to dig deeper by asking them to explain their thinking in speaking and writing.

Use Higher-order Questions to Help Students Build Explanations Learn What Works- Key Concept

3. Create a classroom culture that encourages students to take academic risks and share ideas with the class.

Use Higher-order Questions to Help Students Build Explanations Learn What Works- Key Concept

4. Provide teachers with professional development about how to make question-asking and explanation-generating a natural part of the classroom environment.

Use Higher-order Questions to Help Students Build Explanations

See How It Works

- Video: Opportunities for Student Explanations
- Normal Park Museum Magnet Elementary

  Chattanooga (TN)
- Jill Levine

Use Higher-order Questions to Help Students Build Explanations

See How It Works

- Video: Essential Questions: A Schoolwide Approach
- Normal Park Museum Magnet Elementary

  Chattanooga (TN)
- Jill Levine, Joyce Tatum

Use Higher-order Questions to Help Students Build Explanations
See How It Works

- Video Interview: Response Groups: Eliciting Explanations in History
- Plainwell Middle School (MI)
- Matt Moorman, History teacher

Use Higher-order Questions to Help Students Build Explanations <u>Do</u> What Works

- Sentence Starters for Generating Higher-Order Questions
- Help generate deeper explanations using this worksheet for starting student sentences

Use Higher-order Questions to Help Students Build Explanations Do What Works

- Learning Together About Using Higher-Order Questions to Help Students Build Explanations
- The discussion questions in this tool can be used to convene a school in-service session for teachers to learn why and how to teach using higher-order questions

How to Organize Your Teaching Teaching Strategies

Wrap Up

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References/Resources

- Doing What Works: http://dww.ed.gov/